

IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A method comprising:
receiving media data, and
buffering the media data in a buffer to construct a packet stream, the media data being included in data transmission units, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein a parameter is defined indicative of the maximum number of data transmission units that precede which have an earlier transmission order and a later decoding order than any one of another data transmission units-unit in a packet stream in the transmission order and follow the data transmission unit in the decoding order; and
providing said parameter to a decoder to determine buffering requirements.
2. (Previously Presented) The method according to claim 1, wherein said media data comprises a slice of an encoded picture.
3. (Previously Presented) The method according to claim 1, wherein said transmission unit comprising media data is a video coding layer network abstraction layer unit.
4. (Currently Amended) A method, comprising
receiving an encoded picture stream,
receiving a parameter indicative of a maximum number of data transmission units that have an earlier transmission order and a later decoding order than precede any one of another data transmission units-unit in the encoded picture stream in transmission order and follow the data transmission unit in the decoding order; and
decoding the encoded picture stream in a decoder, wherein the encoded picture stream is received as data transmission units comprising media data, the data transmission units having been ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein buffering of the data transmission units is performed, wherein buffering requirements are determined for said decoding on the basis of said parameter.

5. (Currently Amended) A system comprising
an encoder for encoding pictures; and
a buffer for buffering media data, the media data being included in data transmission units, the data transmission units having been ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein a parameter is arranged to be defined indicative of a maximum number of data transmission units that precede have an earlier transmission order and a later decoding order than any one of another data transmission units-unit in the packet stream in transmission order and follow the data transmission unit in the decoding order to be provided to a decoder to determine buffering requirements.
6. (Previously Presented) The system according to claim 5, further comprising a decoder for decoding encoded pictures, and a memory module for buffering decoded pictures, wherein said parameter is arranged to be used for determining a required amount of memory places to be reserved from the memory for buffering decoded pictures.
7. (Previously Presented) The system according to claim 5, wherein said media data comprises a slice of an encoded picture.
8. (Previously Presented) The system according to claim 5, wherein said data transmission unit is a video coding layer network abstraction layer unit.
9. (Currently Amended) Apparatus, comprising:
an encoder responsive to a signal from a media source for providing an encoded media stream with media data encoded in transmission units, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein said media stream is arranged to contain a parameter indicative of a maximum number of data transmission units that precede any one of have an earlier transmission order and a later decoding order than another data transmission units-unit in the media stream in transmission order and follow the data transmission unit in the decoding order; and
a transmitter, responsive to the encoded media stream, for transmitting the media stream in said data transmission units over a transmission medium or to a storage medium, and for transmitting said parameter to a decoder to determine buffering requirements.

10. (Currently Amended) A receiving device for receiving a parameter and an encoded picture stream as data transmission units comprising media data, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein said parameter is arranged to be used indicative of a maximum number of transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another data transmission units-unit in the picture stream in transmission order and follow the data transmission unit in the decoding order.

11. (Previously Presented) The receiving device according to claim 10, further comprising a memory module, and a definer for examining said parameter and for reserving memory places for buffering from said memory according to said parameter.

12. (Previously Presented) The receiving device according to claim 11, further comprising a decoder for decoding pictures from the received encoded picture stream, wherein the receiving device is configured for using the reserved memory places for buffering the encoded pictures.

13. (Currently Amended) A computer program product including a non-transitory computer readable storage medium embodying computer program code comprising machine executable steps for buffering media data of encoded pictures in a buffer, the media data being included in data transmission units, the data transmission units having been ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein the computer program code further comprises machine executable steps for defining a parameter indicative of a maximum number of data transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another data transmission units-unit in the packet stream in transmission order and follow the data transmission unit in the decoding order to be provided to a decoder to determine buffering requirements.

14. (Cancelled)

15. (Currently Amended) ~~A module for receiving~~ An apparatus comprising:
at least one processor; and

at least one memory including computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus at least to:

receive an encoded picture stream as data transmission units comprising media data, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein a parameter is arranged to be used indicative of a maximum number of data transmission units that precede any one of have an earlier transmission order and a later decoding order than another data transmission units-unit in the packet stream in transmission order and follow the data transmission unit in the decoding order-order;

decode the encoded picture stream to provide decoded data transmission units;
and

buffer the decided data transmission units based on said parameter.

16. (Currently Amended) A method, comprising the steps of:

decoding media data in transmission units in a stream received over a transmission channel, the transmission units ordered in a transmission order which is at least partly different from a decoding order thereof,

examining a parameter indicative of a maximum amount of data transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another transmission units-unit in the stream in transmission order and follow the data transmission unit in the decoding order, and

buffering said media data according to said parameter.

17. (Currently Amended) A system, comprising:

a transmitter for transmitting encoded pictures comprising media data in transmission units ordered in a transmission order which is at least partly different from a decoding order thereof and for which transmission units a parameter is defined indicative of a maximum amount of transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another transmission units-unit in transmission order and follow the transmission unit in decoding order for transmission over a transmission channel, wherein said transmitter is further for transmitting said parameter to a decoder to determine buffering requirements; and

a receiver for receiving said encoded pictures for decoding said encoded pictures for buffering in a memory for storing decoded pictures in memory places reserved according to said parameter.

18. (Currently Amended) Device comprising:

means for decoding media data in transmission units in a stream received over a transmission channel, the transmission units ordered in a transmission order which is at least partly different from a decoding order thereof;

means for examining a parameter indicative of a maximum amount of data transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another transmission units-unit in the stream in transmission order and follow the data transmission unit in the decoding order; and

means for buffering said media data according to said parameter.

19. (Previously Presented) The method according to claim 1, wherein said media data comprises at least one of the following:

- video data,
- audio data.

20. (Previously Presented) The method according to claim 4, wherein said parameter is examined, and memory places are reserved for buffering according to said parameter.

21. (Previously Presented) The receiving device according to claim 11, wherein pictures are decoded from the received encoded picture stream, and encoded pictures are buffered using the reserved memory places.

22. (Previously Presented) The apparatus according to claim 9, wherein said media data comprises a slice of an encoded picture.

23. (Previously Presented) The apparatus according to claim 9, wherein said transmission units are video coding layer network abstraction layer units.

24. (Currently Amended) A non-transitory computer readable storage medium having a computer program stored thereon, said program embodying computer program code comprising machine executable steps for decoding an encoded picture stream, in which the encoded picture stream is received as transmission units comprising media data, and machine executable steps for buffering transmission units, wherein the computer program code comprises machine executable steps for determining buffering requirements for said decoding by using a parameter indicative of a maximum amount of transmission units

comprising media data that ~~precede any~~ have an earlier transmission order and a later decoding order than another transmission unit in transmission order and follow the transmission unit in decoding order.

25. (Previously Presented) A device for transmitting, comprising:

a processor for processing media data by defining a parameter indicative of a maximum amount of transmission units comprising media data that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another transmission ~~units~~ unit comprising media data in a packet stream in transmission unit transmission order and follow the transmission unit comprising media data in decoding order; and

an output for transmitting said parameter to be provided to a decoder to determine buffering requirements, and said transmission units.

26. (Previously Presented) The device for transmitting according to claim 25, wherein said media data comprises a slice of an encoded picture.

27. (Previously Presented) The device for transmitting according to claim 25, wherein said transmission unit is a video coding layer network abstraction layer unit.

28. (Currently Amended) A device for receiving, comprising:

an input for receiving an encoded picture stream data as transmission units comprising slice data; and

a processor for processing data of said transmission units, wherein the processor is configured for determining buffering requirements by using a parameter indicative of a maximum amount of transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another transmission ~~units~~ unit comprising in transmission unit transmission order and follow the transmission unit in decoding order.

29. (Previously Presented) The device for receiving according to claim 28, further comprising a memory module coupled to said processor, said processor for examining said parameter and for reserving memory places for buffering use of said memory according to said parameter.

30. (Previously Presented) The device for receiving according to claim 29, for decoding pictures from the received encoded picture stream, wherein the processor is configured for using the reserved memory places for buffering the encoded pictures.

31. (Currently Amended) An encoder for encoding media data included in data transmission units, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein the encoder comprises a processor coupled to a memory, said processor together with said memory configured to define a parameter indicative of a maximum number of data transmission units that ~~precede any one of~~ have a transmission order and a later decoding order than another data transmission units-unit in the packet stream in transmission order and follow the data transmission unit in the decoding order to be provided to a decoder to determine buffering requirements.

32. (Previously Presented) The encoder according to claim 31, wherein said media data comprises a slice of an encoded picture.

33. (Previously Presented) The encoder according to claim 31, wherein said transmission unit is a video coding layer network abstraction layer unit.

34. (Currently Amended) A decoder for decoding an encoded picture stream included in data transmission units comprising media data, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the media data in the data transmission units, wherein the decoder is configured to determine buffering requirements by using a parameter indicative of a maximum number of transmission units that ~~precede any one of~~ have an earlier transmission order and a later decoding order than another data transmission units-unit in the picture stream in transmission order and follow the data transmission unit in the decoding order.

35. (Previously Presented) The decoder according to claim 34, further comprising a memory module and a processor configured to examine said parameter and to reserve memory places of said memory module according to said parameter.

36. (Previously Presented) The decoder according to claim 35, configured to use the reserved memory places for buffering pictures of the picture stream.

37. (New) A method comprising:
receiving media data, and

buffering the media data in a buffer to construct a packet stream, the media data being included in data transmission units, the data transmission units ordered in a transmission order which is at least partly different from a decoding order of the data transmission units of the packet stream,

examining the transmission units in the buffer to determine how many data transmission units have an earlier transmission order and a later decoding order than any other data transmission unit in the packet stream,

on the basis of said examining evaluation the maximum number of such data transmission units which have an earlier transmission order and a later decoding order than said any other data transmission unit in the packet stream,

wherein a parameter is defined indicative of the maximum number of data transmission units that precede any one data transmission unit in the packet stream in the transmission order and follow said any one data transmission unit in the decoding order, and provide said parameter to a decoder to determine buffering requirements.